

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Reassessment of Federal Communications)	ET Docket No. 13-84
Commission Radiofrequency Exposure Limits and)	
Policies)	
)	
Proposed Changes in the Commission's Rules)	ET Docket No. 03-137
Regarding Human Exposure to Radiofrequency)	
Electromagnetic Fields)	
)	

To: Office of the Secretary
Federal Communications Commission
Washington, DC 20554

REPLY Filed by: Katie Singer
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November 8, 2013

AFFIDAVIT OF KATIE SINGER

State of New Mexico

County of Santa Fe

I, Katie Singer, attest that my statements are true to the best of my knowledge.

REPLY round for FCC ET Docket No. 013-84 and ET Docket No. 03-137

1. My name is Katie Singer. My address is PO Box 6574, Santa Fe NM 87502.
2. I am a writer. My next book, *An Electronic Silent Spring: Facing the Dangers and Creating Safe Limits*, will be published by Steiner Books in 2014.
3. and onward. I endorse the following COMMENTS filed in ET Docket No. 03-137 and ET Docket No. 13-84:

COMMENT by The EMR Policy Institute

COMMENT by Cindy Sage and David O. Carpenter, Co-Editors, The BioInitiative Report 2007 and 2012

COMMENT by Sage, Hardell, Herbert on RF Radiation Effects on Sperm, Reproduction, Brain Tumors, Adverse Fetal and Neonatal Effects, and Autism

COMMENT by The American Academy of Pediatrics

In addition, I submit the following list of solutions compiled from government agencies, an IEEE engineer and health organizations. They can move us toward a safer electrical grid, safer electronics, safer telecommunications--and a healthier world.

First Steps for individuals and society

1. Recognize that electricity, electronics and wireless devices have brought great benefits to humanity. Recognize that electricity and electromagnetic radiation can harm health and the environment. (BioInitiative Report 2012; The Seletun Scientific Statement 2009; and EMR Policy Institute--see EMR Policy's proposed definition of biological harmful interference in box below)
2. Recognize that electronic innovations and inventions have outpaced testing, monitoring and regulating of health. Recognize that safety standards do not exist for children, pregnant women, people with medical implants or other vulnerable populations. Recognize that current standards do not consider the effects of exposure to second-hand radiation, multiple frequencies or multiple transmitters. (FCC Notice of Inquiry 13-39)
3. Commit to guiding ourselves by the Precautionary Principle and first do no harm. Do not deploy or purchase any new technology until third party,

independent testing proves that it does not cause biological harm. (See Precautionary Principle defined in the glossary.)

NEXT STEPS

Next Steps for legislators

1. Mandate a clearly stated federal law that FCC standards do not pre-empt the ability of injured citizens to go to court and recover damages caused by the trespass of electro-magnetic radiation into their bodies. (EMRpolicy.org)
2. Mandate Whitney North Seymour Jr.'s amendment to Section 704 of the Telecommunications Act, which will allow localities to determine their own setback policy on telecom equipment. (EMRpolicy.org)
3. In Congress, re-introduce and mandate the Cell Phone Right to Know Act (HR 6358 2012). It will give the EPA authority to determine biological safety standards on cell phones, require SAR labeling on mobile phones, and fund research about the health effects of wireless devices. All EMR-emitting devices should be included in this Act. (12.12.12 letter from the American Academy of Pediatrics, in the appendix.)
4. Mandate warning labels on all mobile devices that 1)show a picture of how far radiation penetrates the head when the device is near it and 2)state, "This device emits electromagnetic radiation, exposure to which may cause brain cancer. Users, especially children and pregnant women, should keep this device away from the head and body." (Maine Children's Wireless Protection Act, proposed by legislator Andrea Boland, electromagnetichealth.org)
5. Enforce National Environmental Policy Act (NEPA) requirements of Environmental Assessment before deploying new technology near schools or sensitive habitats. (epa.gov)
6. Repeal the FCC's reclassifying the pinna (outer part) of the ear as an extremity in its 2013 Reassessment of RF Exposure Limits and Policies. (Radiofrequency Interagency Work Group, 2003 letter to FCC)
7. Allow people with medical implants and Electro-hypersensitivity reasonable accommodation (i.e. shut off wireless devices and services) in public spaces. (1991 Americans with Disabilities Act.)
8. To provide immediate relief, allow every ratepayer in every state the option of a mechanical, analog meter for their utilities.

Next Steps for regulators

1. Mandate a nationwide, standardized and regulated electrical code-- instead of our current (voluntary) National Fire Protection Association- National Electrical Code. Recognize that "interference" can harm electrical equipment *and* cause thermal and non-thermal effects that harm human health and the environment. OSHA should regulate this code for workers' safety; FDA should regulate the electrical grid's impact on public health, including medical devices and equipment; and EPA should regulate the grid's environmental impacts. This code should be applied to

- the "smart" grid and "smart" appliances and all sources of electricity, including unconventional sources. (BioInitiative.org; HR 6358 2012)
2. Revise our National Electrical Safety Code (NESC) so that there is no more than 1.0 mG (0.1 microtesla) of magnetic field within habitable space. (BioInitiative 2012, p. 37)
 3. NESC must also require utilities to separate neutrals and grounds correctly to prevent return current from flowing over the earth, metallic water and gas piping, building steel and other conductive materials--and to prevent shocking or even electrocuting people in showers or swimming pools. (Donald Zipse, "Are the National Electrical Code and the National Electrical Safety Code Hazardous to Your Health?" *Industrial Commercial Power Systems Technical Conference*, 1999.)
 4. Mandate single-point grounding-transformer isolation on all transformers so that neutral wires are not shared, and ground current and magnetic fields are significantly reduced. (*Practical Grounding, Bonding, Shielding and Surge Protection*, by G. Vijayaraghavan, M. Brown and M. Barnes, Newnes/Elsevier, 2004, p. 237.)
 5. Quantify levels of electromagnetic radiation that cause biological harm. Establish a standard for reaching safe levels for all segments of the population and the environment. (BioInitiative.org) Note: In 1971, OSHA issued a protection guide for workers' exposure to RF radiation (29 CFR 1910.97). This guide was later ruled to be advisory, not mandatory. osha.gov/SLTC/radiofrequencyradiation/.
 6. Mandate regulations that limit electrical and electromagnetic radiation to levels that protect human health and the environment. (BioInitiative.org; HR 6358 2012)
 7. Require periodic testing (by independent third parties) for the presence of hazardous levels, similar to current testing for and enforcement of air quality standards. Require mitigation when hazardous levels are reached, followed by re-testing. (EMRpolicy.org)
 8. The FCC should require installation of sensors at all building-mounted and tower-mounted locations. Emissions levels should be recorded on a regular, ongoing basis and sent to a computer interface via a cabled phone line. These readings should be monitored and posted on a website accessible to the public. High levels should be mitigated promptly. (EMRpolicy.org, Americans Beware)
 9. The FCC should promote cabled Internet in residences, at public institutions and in localities. Fiber optics should be installed for *cabled* (not wireless) services, including Internet, TV and telephone. (EMRpolicy.org)
 10. Congress should fund the FDA to regulate the effects of RF signals and emissions on people who depend on medical devices and medical equipment. (Center for Devices and Radiological Health *and* Electronic Product Radiation Control Program at FDA)
 11. Require licensed electricians to learn (through continuing education)

to identify and eliminate wiring errors on utility wiring and in public and private buildings that generate magnetic fields and ground current --and that may cause biological harm. (*Soares Book on Grounding and Bonding, 10th ed.* International Association of Electrical Inspectors, 2008, p. 429.)

12. Require health care providers, educators, electricians, city planners, architects, electronics designers, solar and wind power manufacturers and others to take annual continuing education about how electronics, wireless devices and transmitters create hazards for children, pregnant women, people with medical implants, people with EHS and the environment, similar to OSHA and EPA mandated periodic training to deal with hazardous materials. (OSHA.gov, EPA.gov and, for example, 29 Code Federal Regulation.)

Next Steps for utility and telecommunications companies

1. Replace every digital wireless transmitting utility meter with an analog mechanical one. (BioInitiative.org; see also letters from epidemiologist De-Kun Li, MD and the American Academy for Environmental Medicine in the appendix.)
2. Keep TV and radio broadcast facilities far from populated areas. (emrpolicy.org)
3. Maintain landlines, a known, safe technology. (BioInitiative.org)

Next Steps for manufacturers

1. Recognize that high frequencies generated by linear and switch-mode power supplies (SMPSs) generate square waves and harmonics that interfere with electronic equipment *and* may cause biological harm. Eliminate fluorescent lights, including compact fluorescent bulbs (CFLs), which use electronic ballasts (aka SMPSs); they generate high frequency harmonics, and they usually contain mercury. Replace them with bulbs such as LEDs that save energy and do not generate square waves and harmonics. Eliminate dimmer switches that generate square waves and harmonics; replace them with dimmers that do not generate harmonics or with standard switches. Revisit standards for electronics and appliances, including 12-volt DC electronics and appliances, that are currently used on boats, RVs and in some solar-powered homes. (BioInitiative.org)
2. Design solar-powered systems that do not generate high frequency fields. Eliminate DC-AC inverters. Whenever possible, use propane or DC-powered appliances and electronics in solar-powered homes and buildings.
3. Create safer electric and hybrid cars, whose existing computerized systems (charging, LCD display, windows, etc.) trap drivers and passengers in a metal box filled with electro-magnetic fields.
4. Create safer medical implants by installing a hazard-overload interrupter in every implant, similar to ground-fault interrupters in household wiring. (Dr. Gary Olhoeft, Colorado School of Mines)

5. Reduce or eliminate ads for wireless devices that target children, as France has done. Reduce or eliminate depictions of substance abuse or violence in films or videos and create more prosocial programs, as the American Academy of Pediatrics (AAP) suggests.

Next Steps for health care providers

1. Since pediatricians who watch more TV are less likely to advise families to reduce their media exposure, physicians need to examine their own media habits. (DA Gentile, C. Oberg et al, "Well-child visits in the video age: pediatricians and the American Academy of Pediatrics' guidelines for children's media use," *Pediatrics* 2004;114(5)L: 1235-1241; and "Children, Adolescents and the Media," *Pediatrics* 2013;132:958-961.
2. Require continuing education for physicians, first responders, public health assessors and other health care providers about creating electrically safe living, learning and working environments for pregnant women, children, people with medical implants and those with Electro-hypersensitivity. Physicians must be trained to recognize Electro-hypersensitivity; to educate parents about creating an electrically safe environment for children; to perform common procedures (i.e. dental work and hernia surgery) safely on people with medical implants. (Austrian Medical Association Guidelines, aerztekammer.at/documents/10618/976981/EMF-Guideline.pdf; Dr. Gary Olhoeft, Colorado School of Mines)
3. The AAP encourages pediatricians to ask, at every well-child visit, *How much recreational screen time does your child or teen consume daily? Is there a TV or Internet-connected device in the child's bedroom?* Physicians could encourage parents to establish a plan for all home media use. *Pediatrics* 2013;132:958-961.
4. Create centers that treat children and adults who use mobile devices addictively, similar to centers that address gambling, alcohol and drug addictions.
5. Require every hospital to employ an electrical interference specialist (as many already do) to monitor potentially hazardous interference between devices *and* between personnel, patients and devices. Health care providers should educate themselves and their clients about plausible and known risks to health caused by RFs; they should encourage precautionary behavior among themselves and their clients.

Next Steps for schools

1. Remove Wi-Fi and wireless devices from schools and libraries. Provide wired learning environments for students and faculty. (Dr. Martha Herbert and Cindy Sage, MA, "Autism and EMF? Plausibility of a pathophysiological link-- Parts 1 and 2," *Pathophysiology* 2013.)
2. Remove digital wireless transmitting utility meters from schools and libraries. Replace them with analog mechanical meters.
3. Provide guidance for educators to recognize Electro-hypersensitivity in children and about the addictive nature of using interactive electronic

devices and the Internet--similar to guidance issued by the CDC for identifying children with food allergies, preventing exposures and managing reactions (cdc.gov/healthyyouth/foodallergies/). Strengthen students' communication skills in non-electronic, eye-to-eye contact. (*Alone Together*, by Sherry Turkle; see also "Children, Adolescents and the Media," a 10.28.13 Policy Statement from the AAP.)

4. Eliminate fluorescent lights. Use incandescent or CLED lights.
5. Before granting licenses, master electricians and plumbers could require apprentices to identify and clear magnetic fields in their own homes.
6. Create institutes that teach people how to measure ELF, RF and SARs; how to identify whether electricity is safely installed; whether the levels of electromagnetic fields in an area are safe; how to mitigate unsafe levels (and how to identify when an environment cannot be mitigated without major infrastructure changes); and how to live with less electronics.

Next Steps for environmental, citizen, religious and professional groups

1. Encourage awareness about the biological effects of emissions from electronics and wireless services on pregnant women, children, people with medical implants and others. Encourage schools, doctors' offices, libraries, places of worship, restaurants, other areas of public accommodation--and your own workplace--to dismantle wireless services, including digital wireless utility meters.
2. As an immediate step to accommodate Electro-Sensitive members, congregations could dismantle wireless services and request that members leave wireless devices at home for weekly or monthly services.
3. Push a solution-based agenda with local and federal legislators and regulators that will make our society safer and healthier. (BioInitiative.org)

Respectfully submitted by
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November 8, 2013 15, 2013

Katie Singer

(your signature)

Sworn to before me

This 15 day of Nov²⁰, 2013

Kay Carlson
Notary Public

my commission expires 11-6-17